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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,475

02/23/2005

Hein Otto Folkerts

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10/11/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

CRANE, SARA W

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/525,475

Applicant(s)

FOLKERTS ET AL.

Examiner

Sara W. Crane

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 27 September 2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., 6,392,263.

The Search Report examiner has noted the Chen reference as an "X" reference, and the claims, broadly construed, do appear to read on the device of, for example, figure 3. Figure 3 shows an image sensor having a p-type semiconductor body 302, with cells comprising photodetector PD and reset transistor RS at the surface of the body. The source and drain region of transistor RS are n-type, and the source is electrically connected to the photosensitive junction region (dashed lines) by well 305. A well region including N-well 305 (and P-Well 304) extends from the surface into the body and below the gate. The doped region of the photosensitive element is the edge region of the well 305, including presumably the junction depletion region that can extend various distances into well 305, so that there is no sharp distinction between the photosensitive element, the N-Well, and the source itself, all of which are n-type. (Thus one can regard the doped region of N-Well 305 that is between source 307 and the PD as being part of the source, or as being part of the photosensitive depletion region.)


With respect to claim 2, the source 307 extends to the body 302 by means of the N-Well 305, so that there is a "delineation" between the source and the body. With respect to claim 3, the drain 323 extends in P-Well 304, and "a distance" is present between distant parts of the well region and the source. With respect to claim 4, the gate 322 extends over a side wall of the well region, identified as the junction between P-Well 304 and N-Well 305. With respect to claim 5, this junction is an edge of the photosensitive junction. With respect to claim 6, the source follower has gate 332, with reset gate 322 being longer than gate 332. With respect to claim 7, it would have been obvious to use an imager in a camera, to take pictures. With respect to claim 8, use of a mask for ion implant is well-known, and would have been obvious in order to obtain the doped regions as shown. The gate 322 is formed over the photosensitive junction, which has sidewall (dashed lines) between the photosensitive region and the well region (wells 304 and 305). The source and drain regions 307 and 323 are self-aligned to the gate. P-Well 304, identified as being part of the well region, has "a distance" from source 307. P-Well 304 (at right) serves as field isolation, and formation by ion implant would have been obvious to obtain the doping shown. With respect to claim 12, the top edge of the photosensitive element must be continuous (because when viewed from the top, the well would be a single region with a perimeter), so that the top edge would be defined by field isolation (at the right of the figure, STI) as well as having a gate positioned along the top edge (at the left of N-Well 305).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (571) 272-1652.

The supervisor for Art Unit 2811, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sara W. Crane  
Primary Examiner  
Art Unit 2811